

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 10/812,596
Filing Date: March 29, 2004
Title: Techniques to adaptively control flow thresholds

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IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method comprising:
 - determining network parameters corresponding to a network;
 - determining host interface parameters corresponding to a host;
 - setting a storage threshold capacity of a storage device based on at least one network parameter and at least one host interface parameter; and
 - transmitting a request to stop transmission of traffic to the storage device based on the storage device exceeding the storage threshold capacity, wherein the storage device is to only store data to be communicated between the host and the network.
2. (Original) The method of Claim 1, further comprising adjusting the storage threshold capacity based on changes to a network parameter.
3. (Original) The method of Claim 1, further comprising adjusting the storage threshold capacity based on changes to a host interface parameter.
4. (Previously Presented) The method of Claim 1, wherein the network parameters comprise a plurality of:
 - link speed of a network that transmits traffic to the storage device;
 - signal propagation speed of a physical medium that transfers traffic from the network to the storage device;
 - length of the physical medium that transfers traffic; and
 - maximum frame size of packets in the traffic.
5. (Previously Presented) The method of Claim 1, wherein the host interface parameters comprise a local bus speed and number of bits that can be transmitted through the bus in a single cycle.

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6. (Previously Presented) The method of Claim 1, wherein the storage threshold capacity comprises a difference between total storage capacity of the storage device to store traffic from a link partner and a safety margin and wherein the safety margin comprises:

- (i) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is prepared plus;
- (ii) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is in transit to the link partner plus;
- (iii) amount of bits that might arrive to the storage device from the link partner while the link partner processes the request to stop transmission of traffic plus;
- (iv) amount of bits that the link partner might have transmitted while the link partner processes the request to stop transmission of traffic minus;
- (v) amount of bits drained from the storage device during (i) through (iv).

7. (Original) The method of Claim 1 further comprising transmitting a request to allow transmission of traffic.

8. (Previously Presented) An apparatus comprising:
a storage device to store received traffic; and
a controller to manage the transmission of traffic to the storage device, wherein the controller is configured to:

- determine at least one network parameter corresponding to a network;
- determine at least one host interface parameter corresponding to a host;
- set a storage threshold capacity of the storage device based on at least one network parameter and at least one host interface parameter;
- monitor storage conditions of a storage device; and
- transmit a request to stop transmission of traffic based on the storage device exceeding the storage threshold capacity, wherein the storage device is to only store data to be communicated between the host and the network.

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9. (Original) The apparatus of Claim 8, further comprising a physical layer interface to transfer received traffic to the storage device.

10. (Original) The apparatus of Claim 8, wherein the controller is further configured to perform media access control processing in compliance with IEEE 802.3x.

11. (Original) The apparatus of Claim 8, wherein the controller is configured to adjust the storage threshold capacity based on changes to a network parameter.

12. (Original) The apparatus of Claim 8, wherein the controller is configured to adjust the storage threshold capacity based on changes to a host interface parameter.

13. (Previously Presented) The apparatus of Claim 8, wherein the network parameter comprises a plurality of:

- link speed of a network that transmits traffic to the storage device;
- signal propagation speed of a physical medium that transfers traffic from the network to the storage device;
- length of the physical medium that transfers traffic; and
- maximum frame size of packets in the traffic.

14. (Previously Presented) The apparatus of Claim 8, wherein the host interface parameter comprises a local bus speed and number of bits that can be transmitted through the bus in a single cycle.

15. (Previously Presented) The apparatus of Claim 8, wherein the storage threshold capacity comprises a difference between total storage capacity and a safety margin and wherein total storage capacity of the storage device comprises the total storage capacity of the storage device to store traffic from a link partner and wherein the safety margin comprises:

- (i) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is prepared plus;

- (ii) amount of bits that might be transmitted from the link partner while the request to stop transmission of traffic is in transit to the link partner plus;
- (iii) amount of bits that might arrive to the storage device from the link partner while the link partner processes the request to stop transmission of traffic plus;
- (iv) amount of bits that the link partner might have transmitted while the link partner processes the request to stop transmission of traffic minus;
- (v) amount of bits drained from the storage device during (i) through (iv).

16. (Previously Presented) A system comprising:
a host system comprising a processor and a memory;
an interface;
a network interface device, the network interface device comprising:
a storage device to store received traffic; and
a controller to manage the transmission of traffic to the storage device, wherein the controller is configured to:
determine at least one network parameter corresponding to a network;
determine at least one host interface parameter corresponding to a host;
set a storage threshold capacity of the storage device based on at least one network parameter and at least one host interface parameter;
monitor storage conditions of a storage device; and
transmit a request to stop transmission of traffic based on the storage device exceeding the storage threshold capacity, wherein the storage device is to only store data to be communicated between the host and the network.

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17. (Previously Presented) The system of Claim 16, wherein the interface is compatible with PCI (Peripheral Component Interconnect).
18. (Previously Presented) The system of Claim 16, wherein the interface is compatible with PCI-x(Peripheral Component Interconnect-x).
19. (Original) The system of Claim 16, further comprising a storage device coupled to the interface.
20. (Previously Presented) The method of claim 1, wherein the network parameters correspond to a network coupled to the storage device via a link partner that transmits traffic to the storage device.
21. (Previously Presented) The apparatus of claim 8, further comprising a physical medium to couple the storage device to a switch, wherein the storage device is to couple to the network via the switch.
22. (Previously Presented) The apparatus of claim 8, further comprising a physical medium to couple the storage device to a hub, wherein the storage device is to couple to the network via the hub.
23. (Previously Presented) The apparatus of claim 8, further comprising a host interface to couple the host and the storage device, wherein the host interface is to allow the host to communicate with the network via the storage device.